

# Testing Like A Boss

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# Agenda

1. How regular JUnit test looks like (in time)?
2. Links



# Intro

- John Doe The Programmer
- Java developer @ Moon Ms
- Since 2000



# June 2000



Just graduated, "tests are for chicken"



# May 2001



User reports a bug, JUnit discovered



# May 2001

```
public void testSimpleAdd() {  
    Money m12 = new Money(12, "USD");  
    Money m14 = new Money(14, "USD");  
    Money expected = new Money(26, "USD");  
    Money result = m12.add(m14);  
    assert (expected.equals(result));  
}
```



# July 2006



User reports another bug, migrate to JUnit 4



# July 2006

```
@Test public void simpleAdd() {  
    ...  
}  
@Test public void addNull() {  
    Money m12 = new Money(12, "USD");  
    Money result = m12.add(null);  
    assertTrue(m12.equals(result));  
}
```





# December 2007



User reports one more bug



# December 2007

```
@Test public void simpleAdd() {  
    ...  
}  
@Test public void addNull() {  
    ...  
}  
@Test public void addBillions() {  
    Money max = new Money(MAX_VALUE, "USD");  
    Money one = new Money(1, "USD");  
    Money result = max.add(one);  
    assertTrue(result.getAmount() > 0);  
}
```



# October 2009



Time to refactoring

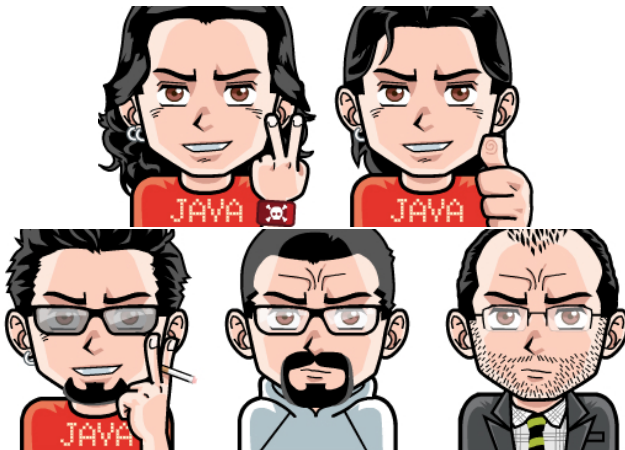


# October 2009

```
@Test public void simpleAdd();  
@Test public void addNull();  
@Test public void addBillions();  
  
private void testAdd(Money _1, Money _2) {  
    Money result = _1.add(_2);  
    assertEquals(result.getAmount(),  
        _1.getAmount() + _2.getAmount());  
}
```



## Long way



# Long way

- Figure out some test inputs
- Code duplication
- Understand post- and pre-conditions
- Separate creating test inputs from assertions



# Links

- Introduction to QuickCheck2



Thank You!

